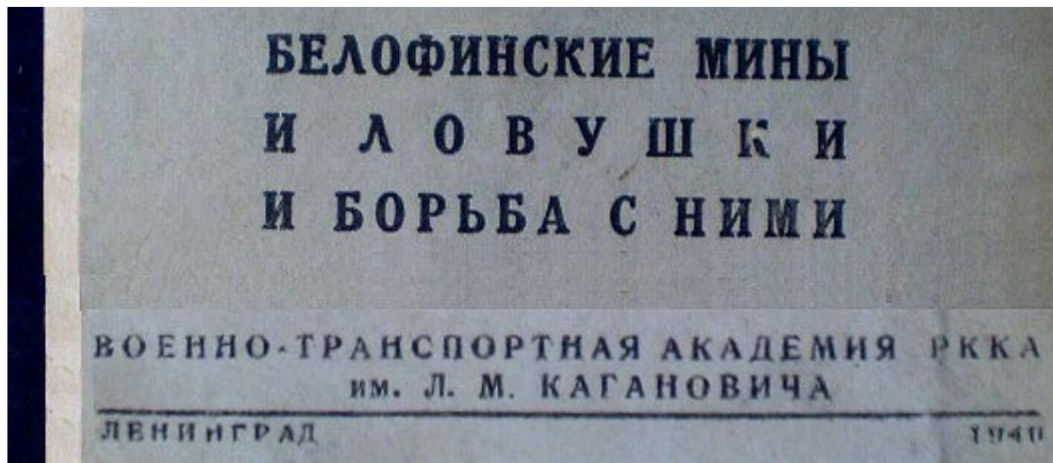
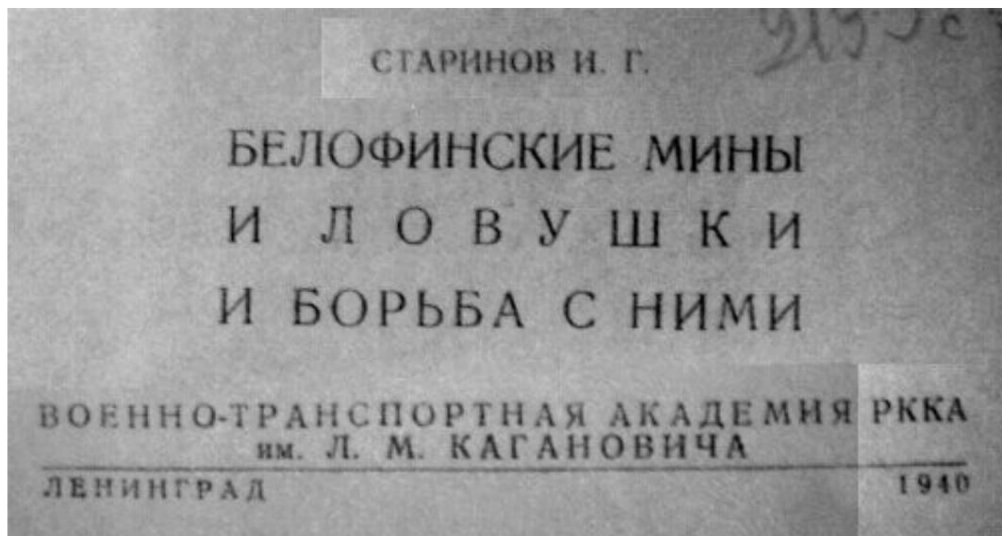


# WHITE FINNISH MINES AND TRAPS AND FIGHTING THEM

Starinov I.G.





Military Transport Academy. L. M. Kaganovich Leningrad, 1940

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The book by I. G. Starinov "White Finnish mines and traps and the fight against them" gives a brief overview of the mines and traps used by the White Finns and ways to deal with them.

The book was compiled with the participation of military engineer V. N. Podozyorov.

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## **WHITE FINNISH MINES AND TRAPS AND FIGHTING THEM**

In the system of barriers installed by the White Finnish gangs, mining is included as one of the main elements.

The White Finns use anti-tank mines, various mine traps and land mines.

The most effective White Finns considered anti-tank mines; the use of various traps was intended mainly "to confuse the enemy and instill in him a sense of uncertainty" (Manual on obstacles, 1931).

In the same Manual, a number of schemes for traps and a primitive anti-tank mine were given (Appendix N: 1). Over the 8 years that have passed since the publication of the Manual, the mining technique of the White Finns has enriched slightly due to the use of electric switches and grating igniters.

The soldiers and commanders of the Red Army quickly mastered the methods and methods of mining the White Finns, and the insidious plans failed. Skillful destruction of mines and clearance of mining areas makes them quite safe.

The ways of supply and withdrawal of the White Finnish gangs are not mined in advance, and with our rapid advance, the enemy will not have time to set mines and traps on them.

As the prisoners show, and as can be seen from the captured documents, the implementation of the mining plan was widely deployed as early as October.

The installation of anti-tank mines and traps was accompanied by numerous accidents and casualties not only in the Belofinsky units that carried out the installation, but also in those located or moving near the mined areas. There were also casualties among the civilian population.

In October 1939, the command of the 1st Chasseur Battalion issued three instructions specifying the methods for setting mines and traps and giving safety instructions (Appendix N: 2).

However, until now, the White Finns do not have a reliable fuse, and this not only significantly slows down the pace of laying mines and traps, but also causes losses among mine and trap installers.

## **The use of anti-tank mines**

(Mine device see Appendix N: 3)

Anti-tank mines are installed by the White Finns:

a) on the approaches to fortifications in barriers; b) in the intervals between artificial and natural anti-tank barriers; c) at the crossroads; d) on roadsides, especially often near telegraph and telephone poles; e) on approaches to bridges; f) on the railway track in addition to barriers arranged along the sides of the railway track; g) on the streets of villages and villages; h) in the fields, individual clearings in forests and individual heights; i) occasionally under sleepers and rails.

Anti-tank mines are masked by backfilling with snow, branches; with hasty installations, masking is done extremely carelessly.

With advance installation, anti-tank mines are supplemented with traps and false installations.

## **Ways to find anti-tank mines and their neutralization**

In many cases, anti-tank mines can be found by unmasking signs: snow bumps, footprints, masking materials (straw, branches, etc.).

Often, during hasty mining, the White Finns throw boxes of mines; by the presence of boxes, one can judge the presence of mined places.

No matter how skillfully the mine was disguised, an experienced scout miner will be able to notice a violation of the snow cover.

It must be remembered that an anti-tank mine must not only be stepped on, but even pressed with a stick or probe.

To neutralize the found mine, first of all, carefully, without pressing down, unscrew the middle small pressure screw (pin), turning it counterclockwise, then unscrew, also by turning counterclockwise, the large sleeve with the fuse. (For details on the clearance of anti-tank mines, see Annex N: 3)

## **Traps**

The White Finns use a wide variety of traps (automatically exploding mines).

By action, all traps can be divided into the following types:

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1. Pressure - exploding when pressed (when stepped on) on the lid of the box or on the body of the trap.

These types are used on roads and paths.

2. Mines that explode when pulling threads, strings and wires.

Such traps are installed in buildings, in the forest on trees, in bushes, and are also tied to various items of military equipment or household items (bicycles, clothes, carts, equipment, etc.). Even a case of such barbarity as setting traps near the corpses of dead soldiers was noted.

3. Mines that explode when the threads break - with electric switches. A case of installing such a trap in the forest was noted.

The lack of reliable fuses leads to the theme that setting traps becomes much more dangerous than disarming them.

When using electric locks, the latter are placed either in the same box with a charge or go close to the charge.

The battery, as a rule, is installed separately, 5 meters or more from the charge.

## **Finding and destroying traps**

Finding and neutralizing mines and traps is carried out:

1) according to found documents on mining Sometimes mining schemes can be found among the killed White Finns;

2) by interviewing prisoners and local residents, you can learn valuable material on mining. The local population can contribute to the search for mines and traps by personally showing the places of mine installations, therefore it is highly desirable to include 1-2 translators in reconnaissance;

3) by the presence of milestones and marks on poles, trees and other objects.

It must be remembered that the White Finns mark the places of mining with milestones, pegs; slats and even signs with inscriptions, which sometimes, during a hasty retreat, they did not have time to remove.

You can find individual marks with a yellow pencil (even on glass) or white and colored chalk;

4) by the presence of unmasking signs - a violation of the snow cover, lying around items of packaging and equipment (paper, wire, scourging, etc.);

5) The electrical network and telephone wires are checked to detect the inclusion of contactors in them.

Suspicious guides and whips are removed with a rope 25 m long.

6) crampons on a rope 25 m long and light probes.

It must be remembered that the sooner the mines and traps are found after the enemy's withdrawal, the easier it is to find them.

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therefore, the mine blasting team assigned to technical intelligence should search for mines immediately after the area is occupied by our units.

Here are some typical examples of setting traps.

1. Three different baskets with household utensils lay on the side of the road in the snow. Two of them turned out to be without charges, the third had a charge from below with a fuse. The baskets were removed with a rope from a distance of 25 m, and therefore the explosion of the charge did not cause casualties.

2. A board lay on the side of the road, partially blocking the roadway. The board, upon careful examination, turned out to be mined - under the board there was a charge with a fuse connected to the board with a whip.

3. On the side of the road there was a fallen tree that interfered with the passage. The tree turned out to be mined - a contactor with a ring made of bare copper wire was installed on it from below, a battery for a flashlight was found to the side. The wires were cut, insulated and the charge removed.

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4. When examining the house, an old coat.

When entering the house through a broken window, when viewed under a coat, a charge with a contactor was found - the wires were cut off and the charge extracted.

Often doors are mined using grating or impact igniters.

5. In fig. 1 shows a grenade trap bare from snow. The setup diagram is not to scale for clarity—enlarged. There are traps with one or two grenades (Fig. 1a).

G - grenades; K - detonator cap; DSh - detonating cord; BSh - fickle cord 5-7 cm long; TV - grater igniter, reinforced under the snow; P - wire (scourge).

The trap explodes when the wire (scourge) connecting the igniter ring to the tree is pulled.

### **Destruction**

Carefully tie a rope more than 25 m long to the discovered part of the trap or put a cat behind the discovered part.

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From a distance of 25 m, pull out the detected part of the trap. The explosion can occur instantly (impact fuse) or with a slowdown of 5-7 seconds. (grating igniter), and therefore, in the absence of an explosion, the approach to the installation site earlier than 5 minutes is prohibited.

If during this period of time the explosion does not occur and the trap is exposed, then neutralize the trap by cutting the wire and detonating cords.

If the trap system is left unexposed, detonating cords and other elements are also stretched with a long rope. Grenades are rendered harmless by removing the primers from them, or destroyed by an explosion when removing the primers is difficult.



## Rice. 2

6. In fig. 2 shows the installation of a trap in a dugout.

A - appearance; B - the inside of the dugout; G - a nail with a fixed wire, coming out of the dugout through a hole in the door; II - wire (scourge); TV - grating igniter; BSh - fickleford cord 5-7 cm long; K - detonator caps; DSh - detonating cord; Z - charge.

Destruction of the trap and security measures:

1. Do not open the door without the necessary precautions. Visible wire can serve as a camouflage.

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2. Tie a long rope to the door handle, move to a safe place and open the door with a rope.

An explosion can occur with a delay, and therefore, if a failure occurs, it is forbidden to enter the dugout earlier than 5 minutes later.

3. Enter the dugout with a lantern and carefully inspect it inside.

Note: When using an impact fuse, an explosion can also occur immediately when the doors are opened.

Rice. 3

7. In fig. 3 shows a hand grenade trap.

RG - a grenade with an additional charge, tied on the outside for fragmentation with pieces of metal (cutting horseshoes, nails, staples); K - fastening a grenade to a tree under a snow cover, F - a porcelain grenade ring; P - wire (scourge), attached at one end to the porcelain ring of a grenade, and at the other - to a tree. Usually the wire crosses a forest path.

When the wire is pulled, the striker of the grenade descends and the explosion occurs after 5 or more seconds.

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## **Destruction**

Hook on a wire or other exposed part with a cat or a hook from a long rope and pull it towards you from a safe place. The explosion occurs with a delay, and therefore, in the event of a failure, the approach to the installation site earlier than after 5 minutes is prohibited. In the event of an explosion, no one should be within a radius of at least 25 m from the installation.

In case of failure and exposure of the trap, it can be neutralized by cutting (scourging) the wire that goes from the grenade to the attachment point on the ground. The grenade is released from the additional charge, wooden handle and primer in compliance with safety measures.

Rice. 4a

8. In fig. 4 shows the installation of a charge with a percussion fuse on a tree.

P - wire; Z - a charge tied with stumps of horseshoes; K - detonator caps; DSh - detonating cord; UV - percussion fuse; LT - forest path.

Charges placed on trees can be bound with parchment paper on the outside, placed in cast-iron pipes with a conical plug, through which a

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primer from a detonating cord, or in cans. Such traps explode instantly when the wire is pulled from pulling out the fuse checks.

When a charge and a fuse are found, it is easy to neutralize them: - cut the wire coming from the pins without pulling it, push deeper than the fuse pin, cut off the detonating cord connecting the charge to the fuse, remove the end of the cord with the primer from

#### Rice. 4b

charge and separate all elements of the trap from the tree.

If only wire is found, the trap is destroyed as shown in example 5.

9. In fig. 5 showed a trap with a contactor.

It explodes when pressed against the lid, which is held in place by thin nails.

Destroyed by trawling with a cat (explosion) or neutralized when wires are found by cutting one by one.

Figure 5a. Section of a box with a contactor and a charge

Fig 5b. Installation diagram.

### Rice. 6

1 - bare conductor (dotted line); 2 - metal rod; 3 - insulated conductors; 4 - electric detonator; 5 - charge; 6 - battery.

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10. Figure 6 shows the installation of a charge on a tree with a primitive contactor in the form of a conductor loop bare from insulation, thrown over the insulated part of the end of another wire and fastened to it with a thread. The horses of the second wire of the stripped core are connected to a metal rod or nail.

When touching the conductor, the loop jumps onto the bare part of the wire, closes the circuit and explodes the charge.

## Neutralization

If the conductor and charge are detected and the wire is not stretched, then the installation is easily neutralized by cutting the insulated conductor, isolating its ends and disassembling all the elements.

If only a loose conductor is found, it is cut and pulled with a cat with a long rope.

Stretched conductors are not cut, but pulled out with the help of a cat with a rope. For clarity, circuit elements in the figure are enlarged and shown without masking.

11. In fig. 7 (A-D) shows the Belofinskaya pressure mine.

Rice. 7a. Belofinskaya pressure mine

1 - a box of boards 1.25 cm for a charge; 2 - explosive type of grained dinaphthalite with a nose of 3.5 kg; 3 - detonator cap N: 8, embedded in the sleeve of the Colt revolver cartridge; 4 - drilling ignition checker; 5 - pressure device with a drummer; 6 - plywood sheathing; 7 - the gap between the box with explosives and plywood sheathing; 8 – mine cover; 9 - a metal plate on the inner surface of the mine cover; 10 - connecting strips of iron fastening the cover of the mine with the box; 11 - rope loop for carrying.

Fig 7b. Plan with lid removed

1 - outer plywood sheathing; 2 - gap for the cover; 3 - inner box with explosives;  
4 - pressure device;

Fig 7c. Plan with lid on

1 - plywood sheathing; 2 - mine cover; 3 - connecting strips of sheet iron fastening the lid to the box; 4 - metal



a plate on the inner surface of the mine cover (dotted line); 5 - carrying loop.

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Rice. 7y. Detail of a pusher with a detonator

1 - latch of the pressure device; 2 - axis of rotation of the pressure latch; 3 - copper check, working on cutting; 4 - spring with striker; 5 - pressure mainspring; 6 - rivets connecting the springs to the frame; 7 - skeleton of the pressure device; 8 - screws attaching the pressure device to the lid of the box with an explosive charge; 9 — a cover of a box for a charge; 10 — sleeve Koltovsky revolving cartridge; 11 — central firing piston in the head of the cartridge case; 12 - smokeless powder; 13 - detonator cap N: 8; 14 - drilling ignition checker.

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Fig 7e. Cover detail

1 - middle retractable cover board; 2 - metal plate on the lower inner surface of the cover; 3 - a slot in the top side board of the mine cover; 4 - pressure device on the box with explosives; 5 - the upper surface of the box with explosives; 6 - top side board of the cover

mines.

The mine can be used against vehicles and tanks.

The slot is assigned to install the cover until the metal plate on its inner surface touches the pressure latch (Fig. 7e) and to install the safety rod (see the translation of the Finnish instructions).

The mine is destroyed by an explosion of a 200 g charge located on the mine or on the side.

In this case, it is necessary to avoid pressing or moving the mine.

In some cases, horseshoes, nails, cast-iron pipes and other metal objects placed on top of the charges were used to enhance the action of the charges and obtain a large number of fragments.

### **Features of finding mines and traps on the railway section.**

The mine demolition team of technical intelligence inspects and clears mines:

- 1) railway track with a right-of-way;

2) station tracks, service and residential buildings, loading and unloading platforms, warehouses, water supply and other facilities at stations;

3) artificial structures and approaches to them;

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4) work sites;

5) ways of approach to the restored objects.

Mine demolition teams are obliged to clear the site and individual objects on it from mines, traps and explosives by the time the restoration work begins.

To ensure the successful completion of the work by the subversive team to find and destroy mines, the team must be equipped with the following equipment and tools:

Light probes 2–3 m long with tips 5–6 mm in diameter, crampons with three feathers on a rope 80–60 m, lamps for inspecting wells and dark rooms, magnifiers for inspecting supports, chalk, ropes, explosives and accessories for explosion, flat-pliers and other necessary property.

## **railway track**

Mine-subversive reconnaissance is dispersed ahead of technical reconnaissance.

Ahead of all, following the existing tracks, is an experienced junior commander; in some cases, the head of the team goes with him. They carefully inspect the superstructure and subgrade. At the same time they are watching. marks on poles, behind milestones, rails and other possible symbols for places where min.

Suspicious bridges are weeded with metal crampons: on a scourge more than 25 m long, or they are probed with light probes.

The use of metal probes (probes) is allowed only when demolition workers work alone at a distance of at least 20-25 m from each other.

The probes should be as light as possible and they should be used so that the pressing force is not more than 1 kg.

Suspicious objects found by the probe should be trawled by cats.

Catsweeping is carried out as follows: the cat is installed (attached) behind the mine and dragged through the intended location of the mine or guides and scourges coming from it. As a result, the mine is either removed from its place or explodes.

The probes detect mines (boxes, metal cases) only located in the snow by sound, resistance and shape. The probe must overcome only the resistance of the snow.

The distance between the probing points is 25–30 cm.

it must be remembered that the White Finns put 6–10 false ones on one real trap, and therefore with the help of a cat it will be possible to remove all false traps and mines without an explosion.

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Cat-etched traps are carefully examined. When complete safety is determined by their discharge, the trap is neutralized by the junior commander with the permission of the commanding officer. If a battery and wires to it are found, the conductors are cut off one at a time and their ends are also isolated one at a time - immediately after cutting.

When a safety check of a shock or grater igniter with a scourge or wire tied to it is found, the latter are cut.

If the operation of the mine mechanism is unclear, you need to drag the mine a certain distance with a cat on a whip at least 25 m long and examine it again.

If the action of the mine mechanism remains unclear, the mine explodes with a 200-400 g thick saber.

As a rule, one should not strive to discharge traps - for safety, it is better to destroy them with a cat on a rope at least 25 m long or with a charge explosion.

Explosives immediately report unfamiliar mines and traps to the team leader.

Below is a diagram of the movement of a mine-blasting team of technical intelligence on a single-track and double-track railway sections.

VO scheme - combat support.

The snow cover in front of the team should not be allowed to be disturbed by anyone.

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Combat support must monitor the terrain ahead and to the sides.

Each pair of demolition men must be equipped with a crampon and probes and other necessary tools.

All demolition men must review and neutralize the  
stripes.

## **Artificial constructions**

Artificial structures are inspected extremely carefully, especially in the case of unexploded supports. These supports may contain unexploded charges, traps and mines. The terminology should not be confused: a charge is an explosive prepared for an explosion; a mine is a charge equipped with an automatic fuse or instantaneous or delayed action contactor.

It is recommended to use a magnifying glass to inspect the bridge supports.

It is necessary to carefully monitor each stretched wire (scourge), for pegs, lying stones, etc.

Remove suspicious objects only with a rope longer than 25 m.

When removing charges that did not explode in the supports and on the spans, it is necessary to remove all unnecessary people. Discharging should be done by no more than 2 people.

When discharging, special attention should be paid to the possibility of setting traps, the explosion of which can lead to the explosion of the entire charge, the destruction of the foundation and the death of people.

The found conductors and cords in all cases are removed using a rope 50 m long tied to them.

In doubtful cases, a specialist instructor should be called in to discharge the charges in the supports. The latter, upon detecting signs of the installation of mines, neutralizes the installation with the help of chemical means, filling the mine pipe with a solution of acid or alkali.

Valuable instructions on how to mine the bridge can be obtained from local residents and prisoners.

Open wells must be explored with the help of flashlights; backfilled wells may contain unexploded charges, which can be judged by conductors and cords emerging from the well.

In the latter case, the specialist instructor determines the method of discharge.

The most rational way is to wash out the earth with a jet of water.

It must be remembered that tol and melinite are not destroyed even by strong solutions of alkali or acid. These explosives are white shells

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soluble in alcohol and acetone. For 1 kg of explosives, 2-3 liters of alcohol or acetone are needed.

Pyroxylin and good grades of dynamite are decomposed by strong alkali solutions (up to 10-15 percent soda) within 3-6 days. For 1 kg of explosives, 1-1.5 kg of soda is needed.

The warmer the solution is, the faster the explosive will decompose, and therefore it is necessary to fill the wells with a warm and even hot solution.

Explosives containing saltpeter and bartholite salt are destroyed by ordinary water within 2 days.

Dynamite with saltpeter is destroyed by a weak solution of alkalis within 2-3 days.

On bridges and other man-made structures, approaches should be carefully inspected to remove traps and detect mines.

Pipes should be inspected starting from the approaches to them, as traps may be installed on the approaches.

Backfilling of pipe openings from the upper side must be removed after a thorough examination of it. At work should be no more than 2 Human.

## **Stations**

At the stations, the tracks, service buildings and, first of all, the water supply should be inspected.

To speed up the inspection, the demolition team can be divided into several separate groups: paths, buildings, warehouses.

At the same time, the principle must be observed: do not work closer than 25 m from one another.

When opening the doors of buildings, only ropes with crampons or hooks should be used, remembering that it is better to open all non-mined doors with a rope than to open one mined door with your hands.

Inspection of the building inside should be carried out by no more than two people. All items must be carefully examined, especially pipes, stoves, floors, tables. Any movement of individual items, opening tables, drawers and doors should be done with a rope from behind a shelter.

If there are residents at the station, they must be involved in inspecting the buildings. Mining buildings with residents remaining in them is very difficult.

The access routes to the station can be mined even with anti-tank mines.

Traps can be installed under the covers of cellars and wells.

All covers of cellars and wells at stations where there are no civilians left must be opened with ropes.

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On inspected objects with chalk and other methods, it is necessary to make marks about their inspection and demining.

All explosives must be collected and delivered to the warehouse.

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Recently, the White Finns have used, in addition to standard ones, handicraft wooden anti-tank mines, similar to the one shown in fig. No. 7 a-d, and with an electric lock.

There are such mines: a charge of 2-3 kg, together with a contactor, is installed inside, between two connected plywood measuring 30 by 50 cm.

The battery is installed, in most cases, separately.

Often two such mines are connected together by common conductors. The distance between mines is from 50 to 150 cm.

Plywood mines with contactors are very sensitive to pressure.

Detected plywood, or in boxes, mines are destroyed by a charge of 200 g, installed carefully on the discovered part or side of the mine, while avoiding not only pressing the mine, but also shaking it.

You can first remove the mine using a metal cat on a rope 25 m long, for which the cat (hook) is carefully placed behind the mine or conductor and pulled by the rope, moving to a safe

place.

When the mine is taken out by the cat, it is either blown up with a charge of 60-200 g or, if all parts are visible and the mine system is clear, it is neutralized by cutting the conductors leading to the battery.

The conductors must be cut one at a time with their immediate isolation.

Often recovered mines turn out to be false.

It is possible to defuse a makeshift mine only with the permission of the commander, when he recognizes the neutralization as completely safe.

The use of homemade anti-tank mines by the Finns shows that the stocks of standard mines are already running out.

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Demining work must be carried out with all precautions. Even single mines and traps can cause casualties on the part of recovery and tech intelligence workers.



Demining work requires special attention, vigilance and skill. You should carefully scout and not miss a single trap and mine.

When working on demining, be careful not to miss a single trap, be careful and use a cat to neutralize traps and open doors, a rope to pull out conductors.

Study the installation system - each direction is mined in its own way. We will respond to the treachery of the enemy with Bolshevik organization and vigilance, Red Army ingenuity, fearlessness and caution, and thereby nullify all the efforts of the White Finnish gangs.

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## **Annex 1**

### **Schemes for setting mines (traps) from the Finnish Manual on obstacles in 1931**

Rice. 8. Stone-throwing mine

Rice. 9. Mina (trap) explodes when the string is pulled

Rice. 10. Mina (trap) explodes when pressed on the lid of the box

Rice. 11. Mina (trap) with two impact fuses, exploding when pressed  
on the board

Rice. 12. A mine that explodes when the wires are pulled a, a

Rice. 13. Primitive anti-tank mine from a projectile - weight 5 - 10 kg

/Tab 24-25/

**Annex N: 2**

**COPIES OF ORDERS OF THE COMMANDER OF THE 4th EG. BAT. ABOUT THE APPLICATION  
WITH MINES AND SECURITY MEASURES IN THEIR INSTALLATION**

Approval jaeger. baht.  
Headquarters

N: 101/R/88

Contents: On  
the careful  
handling of  
explosives and mines

RAUTU 17.10.39

I order you to follow the following safety rules:

1. For each mined field and for each network of traps, a sketch and an explanatory note should be drawn up, from which the following should become clear:

a) who supervised the work; b)  
how many traps; c) a  
system of traps: mines with wire, contact, etc. Ignition device, impact  
ignition, elements or type of hand grenade;

d) the exact location of the traps. The sketch of the barrier area is insufficient. It is necessary to make such a drawing, according to which the location of traps or minefields could be determined by some landmark, on a map with a scale of 1: 20,000.

Sketches must be drawn in duplicate, one of which remains in the platoon.

2. When the fuse is removed from the mine and the pressure screw is screwed up to failure, then the mine should still be handled with care. The fuse can only be removed when the mine is installed in its place in the ground. Carrying a mine without a fuse is prohibited.

3. Work with explosive and incendiary devices is allowed only to those persons who are familiar with chemicals. When preparing traps, you need to be especially careful. Unnecessary observers should not be present during work.

4. Platoons should be made aware of mined areas and the location of traps.

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In the place where the movement of local residents is possible, minefields and traps cannot be set. A sentry should be placed near the mined houses. Minefields on the roads need to be surrounded by signs (sentries are not enough). Since the retreating units will pass in the location of the minefields, all minefields should be surrounded by milestones so that the fighters can easily find the passages. The duties of the retreating unit include the removal of milestones.

5. Traps are set only by order of the commander of the unit assigned to install barriers. All unauthorized installation of traps is strictly prohibited.

Commander 4 Jaeger. baht. Lieutenant Colonel **M. Nurmi.**

Senior officer Captain **Karhonen.**

=====

Approval headquarters of the 4th baht.  
N: 103/R/88

**Contents:** About  
the handling of mines

There was an ambiguity in the handling of mines, so I order you to be guided by the following rules:

1. After the safety device in the fuse is removed, the screw must be screwed in completely.

2. When burying a mine in the ground, you must leave at least 4 cm above ground level, otherwise the mine may not explode.

3. The minimum distance between mines should be 1.25m for hard ground and 2m for soft ground.

If the mines are located close to each other, then the entire minefield can be exploded simultaneously from one mine.

4. For each real mine, always 6-10 false mines should be installed. To do this, you can use heaps of pine branches, straw, hay, dung heaps, earth, etc. The first duty in this way is to mine the roads along their entire length. In some places, you can set traps that will have to explode when arranging false mines.

Approved com. 4 eg. baht. Lieutenant Colonel **M. Nurmi.**

Senior officer captain **K. Karhonen.**

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Approved..4 EB  
headquarters  
N: 210 / P / 88 Contents: Safety  
measures when setting  
up traps

RAUTU 25.X.39

In view of the accidents that have occurred, in addition to the relation N: 101 / R (88) 4.10.39, the following rules should be followed:

1. In each link, working on the installation of traps, there must be a foreman officer or junior officer who is well aware of the technical device of traps, as well as explosives.

2. Develop reliable fuses for all traps.

The following is recommended:

a) mines placed in a box (paragraph 230, mine regulations) must be equipped with a safety rod, which is pulled out by means of a wire (at least 30 m long) tied to the rod.

b) in the manufacture of electric blasting traps: the charge, the contactor (which, upon contact, closes the electrical circuit) and the flashlight battery should not be in the same box.

If the charge is installed separately (eg, a hand grenade mounted on a tree or a tube mine), then the electric detonator is placed while working behind the tree.

The electric detonator must be equipped with a wire of sufficient length. The wire-electric detonator must be nailed to the tree with staples. Thus, the movement of the electrostonator cannot affect the contactor. In this case, if an accidental short circuit occurs, then only the electric detonator will explode, which is located behind the cover (buried in the ground so that the fragments cannot harm). Lastly, the electric detonator is inserted into place in the charge.

The best and most secure way would be the following.

The wires that include the battery are diverted 15-20 m from the charge under cover (behind a tree, stone or cellar). First, it is installed in place and the charge is disguised, then the contactor. After that, check the open circuit.

If the test needle does not move, then you can replace the battery

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It should be reminded that even in the case when the wiring is checked by the tester, the worker must be behind the cover.

2. In the manufacture of electric traps, be especially careful with metal tools, such as pliers, so as not to close the circuit, which will lead to an explosion of the electric detonator.

4. Only 1-2 people can deal with the final installation and masking of the trap. All the rest should be at this time no closer than 50 m from the place of installation, traps.

In no case should such a situation be allowed when, in the event of an accidental explosion of a trap, 5-6 people would be near it at the same time.  
people

Approved com. 4 eg. baht. Lieutenant Colonel **M. Nurmi.**

Senior officer Captain **Karhonen.**

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**Annex N: 3**

**ANTI-TANK MINE**

Rice. 14. Anti-tank mine assembled

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A general view of the assembled mine is given in fig. 14

Dimensions:

total weight	7 kg
charge weight	3.6 kg
height	10 cm
top diameter	26 cm
base diameter	31 cm

On fig. 15 mine is shown disassembled.

### Rice. 15. Disassembled anti-tank mine

Mina consists of:

a) a metal case; b) a charge of molten metal with an intermediate detonator of pressed metal; c) devices for mine explosion.

The mine body consists of 3 parts:

- 1) The lower cylindrical part, filled with a charge of fused tol with cutouts on the base for greater stability (1).
- 2) Covers with screw threads for fixing (bushings, heads) fuse (2).

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- 3) Split ring for connecting the cover to the base (3),

In the upper position, the lid is held by a spiral spring (4) resting on the upper surface of the tin cup (5).

A device for exploding a mine (fuze) consists of:

- 1) ignition cartridge with impact device for explosion (6);
- 2) heads (bushings). fixed in the cover by screwing into the rifling (7);
- 3) a pressure pin (screw) of the striker (8), screwed into the fuse sleeve (head) to failure after the mine is installed in place.



Each fuse has a fuse (9), which serves to ensure safety during transportation and is removed after installation mines.

The mine explodes when a tank, wagon or even a person presses on any part of the cover, the movement of the cover is transmitted to the fuse - the amount of pressure is from 8 to 180 kg, apparently, depending on the metal used for the fuse checks.

When a mine is found, it is necessary to carefully, better kneeling, without pressing, clean the head and carefully, in no case pressing, turning counterclockwise, unscrew the small head, then the large one, which is removed along with the mine fuse.

Without an ignition cartridge, a mine can be treated like tol.

If it is impossible to unscrew the small head, the mine is destroyed by detonating a charge of 60 - 200 g located near the screw or 400 g close to the side of the mine or the mine is poured with hot water and then again, without pressing down, they try to unscrew the small head.

A frozen water mine becomes even more dangerous.

In no case should you try to blow up a mine by throwing stones at it, since the explosion may cause shrapnel wounds.

Dig in the defused mine from all sides and lift it by the handle or a shovel laid under the bottom from below.

The ignition cartridge (fuze) must be handled with extreme care, the pressure pin must be removed and stored separately.

The fuse must not be disassembled

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### **Appendix N: 1**

Scheme for setting mines (traps) from the Finnish manual. (insert).

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